

REMARKS

After the foregoing Amendment, claims 16-29 are currently pending in this application. Claims 17-18, 21-22 and 25-26 have been amended to correct informalities. Claims 16, 20, 22, 24 and 26 have been amended to more distinctly claim subject matter which the Applicant regards as the invention. No new matter has been introduced into the application by these amendments.

Claim Objections

The Examiner objected to claims 17-18, 21-22 and 25-26 because of informalities. These claims have been amended to correct the informalities, in accordance with the Examiner's suggestion. The withdrawal of the objection to claims 17-18, 21-22 and 25-26 is respectfully requested.

Claim Rejections - 35 USC § 112

Claims 18, 22 and 26 stand rejected under 35 USC § 112 second paragraph as being indefinite due to improper antecedent basis and lack of clarity for the phrase "the handoff procedure" contained therein.

Claim 16 has been amended to improve clarity. A proper antecedent phrase "a handoff procedure" already existed in lines 11-12 of independent claim 16, from

which claim 18 depends. Claims 20 and 24 have been amended to improve clarity and to introduce a proper antecedent phrase “a handoff procedure” for the phrase “the handoff procedure” contained in dependent claims 22 and 26, respectively. Withdrawal of the 35 USC § 112 rejection of claims 18, 22 and 26 is respectfully requested.

Claim Rejections - 35 USC § 102

Claims 16-29 stand rejected under 35 USC § 102(b) as being anticipated by Kuehnel et al. (5,907,542). The Office Action asserts every limitation of every claim is anticipated by Kuehnel. Applicant respectfully traverses this assertion.

As amended, the present application is directed to methods and apparatus for performing a handoff of a mobile terminal (STA) from a first access point (AP) in a first extended service set (ESS) to a second AP in a second ESS. The invention introduces a mechanism by which, when a distribution system (DS) in the second ESS fails to recognize the first AP, this failure triggers handoff procedures. It is contemplated that the invention is applicable in IEEE 802-type wireless networks, which do not effectively address such a situation. The prior art does not have a mechanism for handoff of a STA between different ESSs. Fast handoff is accomplished by introducing an association request message, which identifies the first and second APs and the first ESS. The association request message is sent by

the terminal to the second AP to request a connection when the terminal detects its connection with the first AP has been lost. Prior art 802-type networks do not identify the APs and the first ESS in the association request message. Through the use of the expanded association request message, it is possible to quickly establish that the first and second APs are in different ESSs, and to quickly initiate handover procedures. The address of the first AR needed for handover can be acquired from the terminal or from a database in the first ESS, and handover procedures can be initiated by the terminal or by a device in the second ESS.

Although IEEE 802-type wireless networking is not explicitly identified in the application, the terms extended service set (ESS), distribution system (DS), access router (AR), wireless local area network (WLAN), and wireless wide area network (WWAN), would all be understood by one of skill in the art of wireless networking to refer particularly to IEEE 802-type wireless networks.

In contrast, Kuehnel is directed to ATM systems and concepts, and has nothing to do with IEEE 802-type wireless networks. The terms extended service set, ESS, distribution system, DS, access router, AR, wireless local area network, WLAN, wireless wide area network, WWAN are not found in Kuehnel, nor do they have any counterpart in Kuehnel. Rather, Kuehnel uses terms inherent to ATM which have no counterpart in IEEE 802-type wireless networks, such as virtual path (VP), virtual path ID (VPI), virtual channel (VC), virtual channel ID (VCI),

signalling virtual channel (SVC), signalling virtual channel ID (SVCI), and signalling virtual assignment engine (SAE). See, e.g., Kuehnel column 2 lines 43-47 reciting "Adaptation of the virtual channel/virtual path (VC/VP) concept, which is inherent in ATM, to the wireless environment is one of the major problems that the present invention attempts to solve."

Thus, although a wireless terminal and an access point can be found in Kuehnel, essentially no other element of the present application can be found there. Contrary to the assertions made in the Office Action that recitations in Kuehnel "clearly" anticipates or reads on all limitations of the present application, applicant is simply not able to find those limitations at the cited locations, or elsewhere in Kuehnel.

For example, the Office Action cites the Kuehnel abstract and column 2 line 66 to column 3 line 12 for a method for handoff of a wireless terminal from a first access point (AP) associated with a first access router (AR) in a first extended service (ESS) to a second AP associated with a second AR in a second ESS. However, no access router or extended service set can be found in Kuehnel, at the cited locations or elsewhere. Therefore such a handover cannot possibly be taught in Kuehnel.

Furthermore, of the communication scenarios outlined in Kuehnel, the one most nearly analogous to that of the present application is called "Handover I", see

Kuehnel column 6 lines 23-25 reciting, "Handover I occurs when there is a loss of carrier, thereby requiring a re-registration of the mobile terminal into the network. It is essentially a combination of the Loss of Connection situation (described below) and the Registration situation described above." Kuehnel column 7 lines 41-47 recites, "Loss of Connection. To insure that the signalling connection is on-going and valid, the control function [in the network] of the present invention periodically sends Alive Message requests to the mobile terminal using the existing SVC or the Assignment Channel. If the control function does not receive a response within a given time [] following an Alive Message request, then it assumes the mobile terminal MT is disconnected." Thus, in Kuehnel, it is the control function in the network which detects a lost connection and initiates further actions. This is in stark contrast to the present application, wherein it is the STA that detects a lost connection and initiates further action. This limitation is found in all independent claims of the present application, and this alone is sufficient to distinguish them from Kuehnel.

Thus, independent claims 16, 20, 24, and 28 are believed to be patentable over the cited prior art of record. All other claims are dependent on these, and are also believed to be patentable. Withdrawal of the 35 USC § 102(b) rejection of claims 16-29 is respectfully requested.

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Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicant respectfully submits that the present application, including claims 16-29, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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